

**MICROENCAPSULATED AND MACROENCAPSULATED  
DRAG REDUCING AGENTS**

**Abstract of the Disclosure**

- 5        High concentration drag reducing agents may be prepared by microencapsulating and/or macroencapsulating polymer drag reducing agent. The encapsulation may be performed prior to, during, or after the polymerization of monomer into effective drag reducing polymer. If encapsulation is done before or during polymerization, a catalyst may be present, but little or no solvent is required. The result is
- 10      very small scale bulk polymerization within the capsule. The inert capsule or shell may be removed before, during or after introduction of the encapsulated drag reducer into a flowing liquid. No injection probes or other special equipment is expected to be required to introduce the drag reducing slurry into the liquid stream, nor is grinding (cryogenic or otherwise) of the polymer necessary to form a suitable
- 15      drag reducing agent.

TOP SECRET - CRYPTOGRAPHIC